

Skyshelves™ DG

Light Shelf for Daylighting

Working

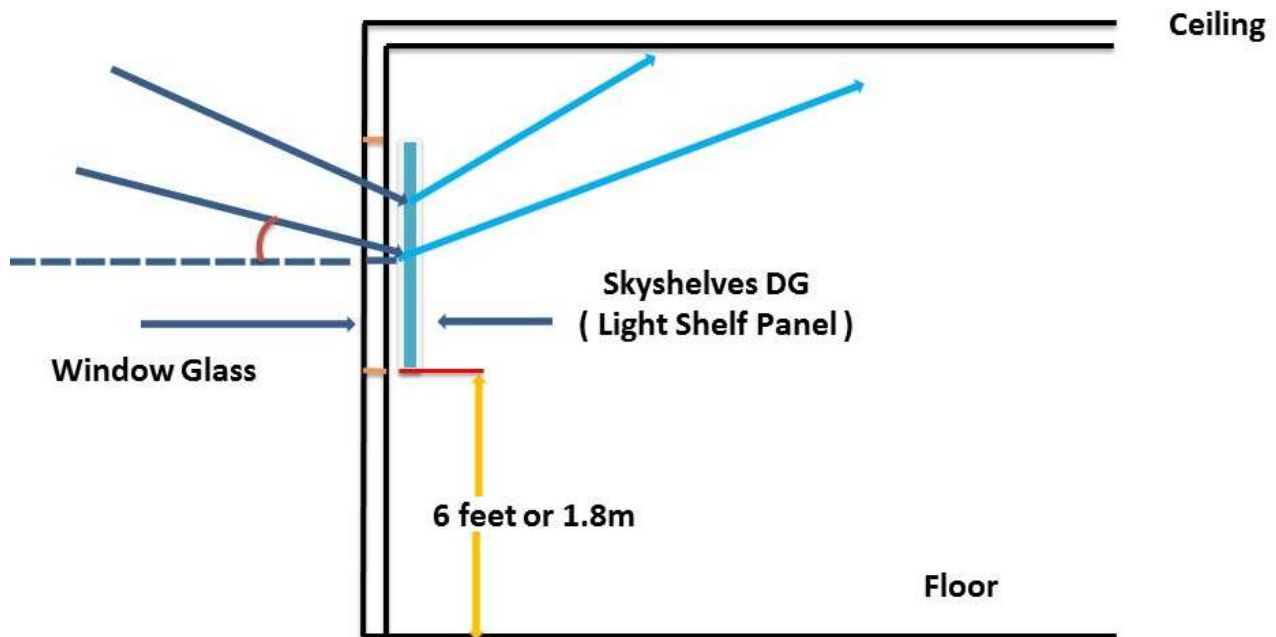


Fig.1

Features

- Sunlight redirecting panels to ceiling.
- Can give light penetration deep inside.
- Allows light penetration on diffused (cloudy) sky.
- Light weight & easy to fix from inside.
- For existing or new buildings.

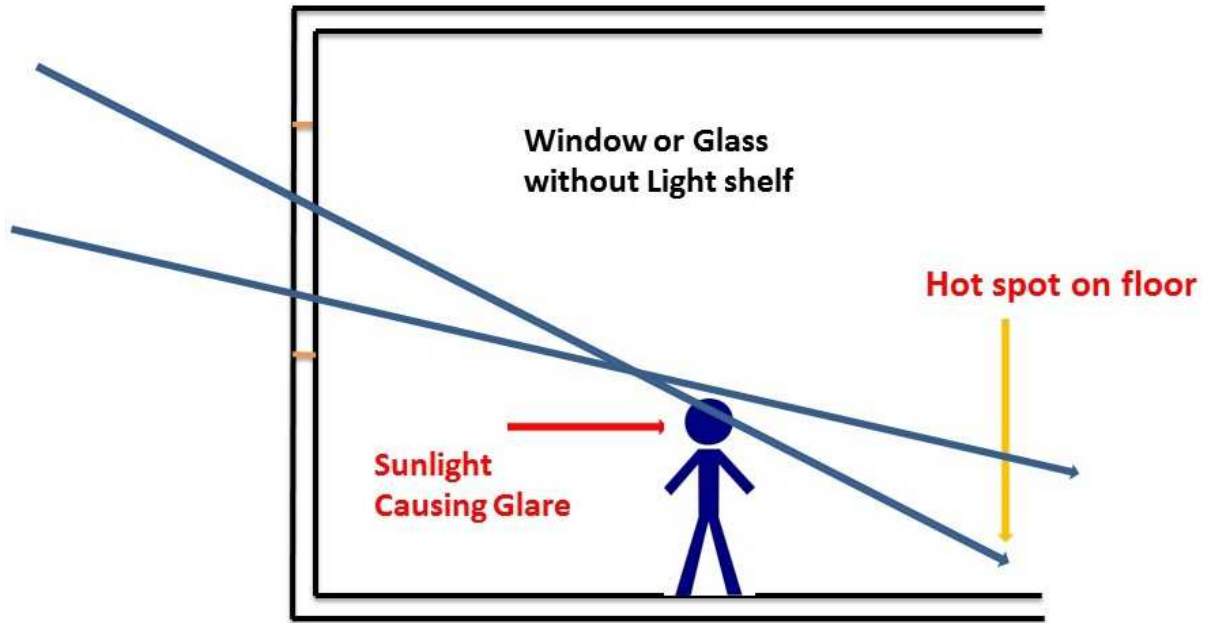


Fig.2

Normally Sunlight transmits through of the window glass or structural glazing causing bright spots or hot spots on the floor near to window. For any point away from the bright spot, light intensity drastically reduces calling for switching on Electrical lighting (Fig.6)

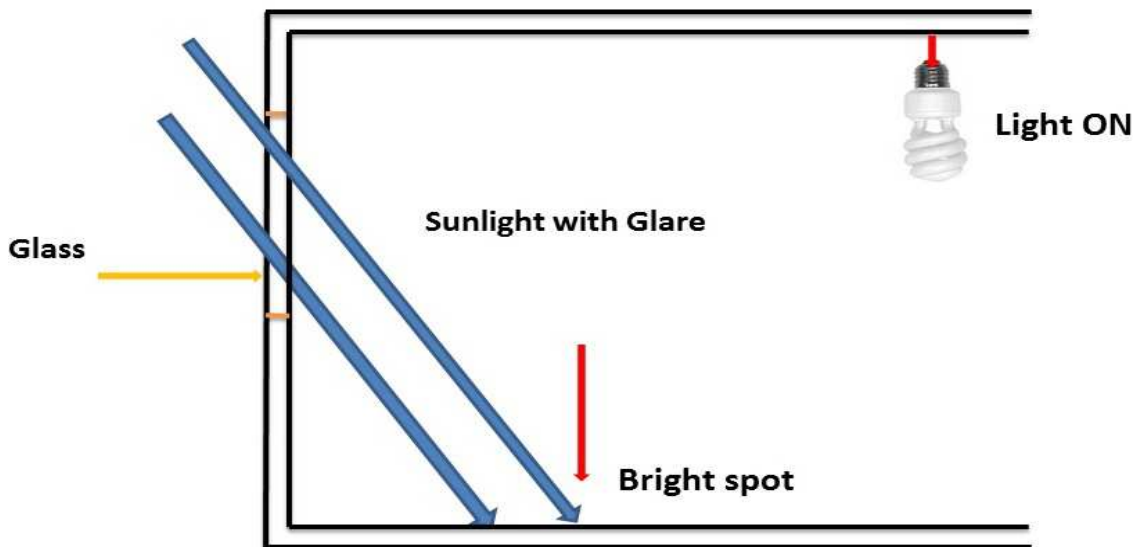


Fig.6

To avoid the glare, people cover the glass with blinds, which blocks the light Transmission and calls for electrical lighting. Fig.5. These practices are energy inefficient as they forcefully block natural sunlight and use electric power.

Fig.5.

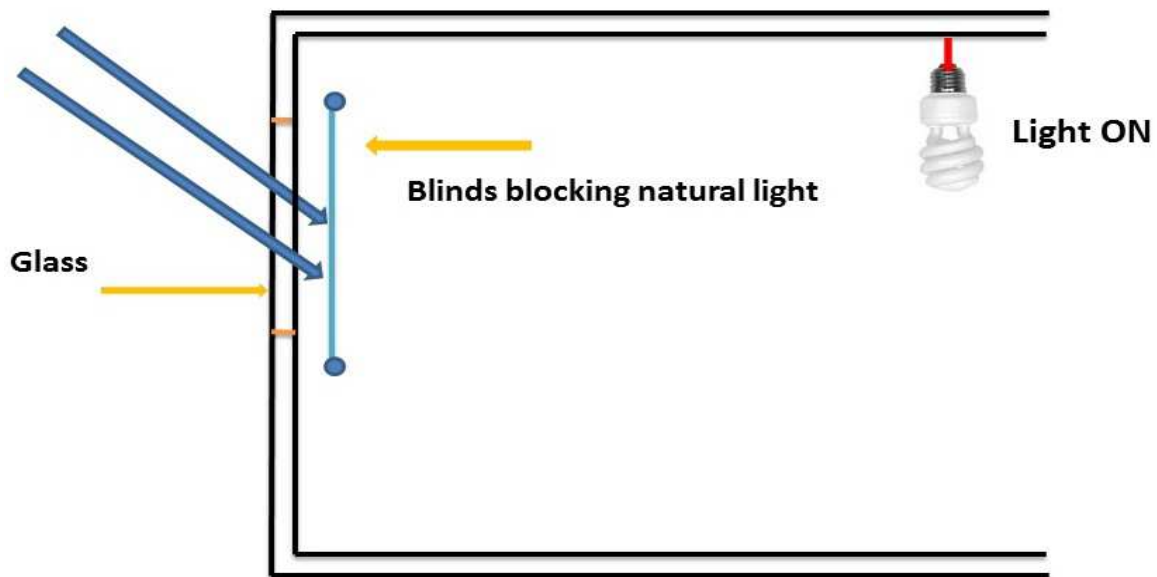


Fig.5

Skyshelves DG avoids this anomaly. It redirects sunlight incident on glass on to building ceiling fig.3. This redirected light reflects of the ceiling giving diffused, bright light.

Such redirected light can penetrate 8 to 12 m depending on orientation building. Using this panels electrical lighting can be switched off during Daytime. No Blinds are required on Glass.

Skyshelves alters the glass performance as follows.

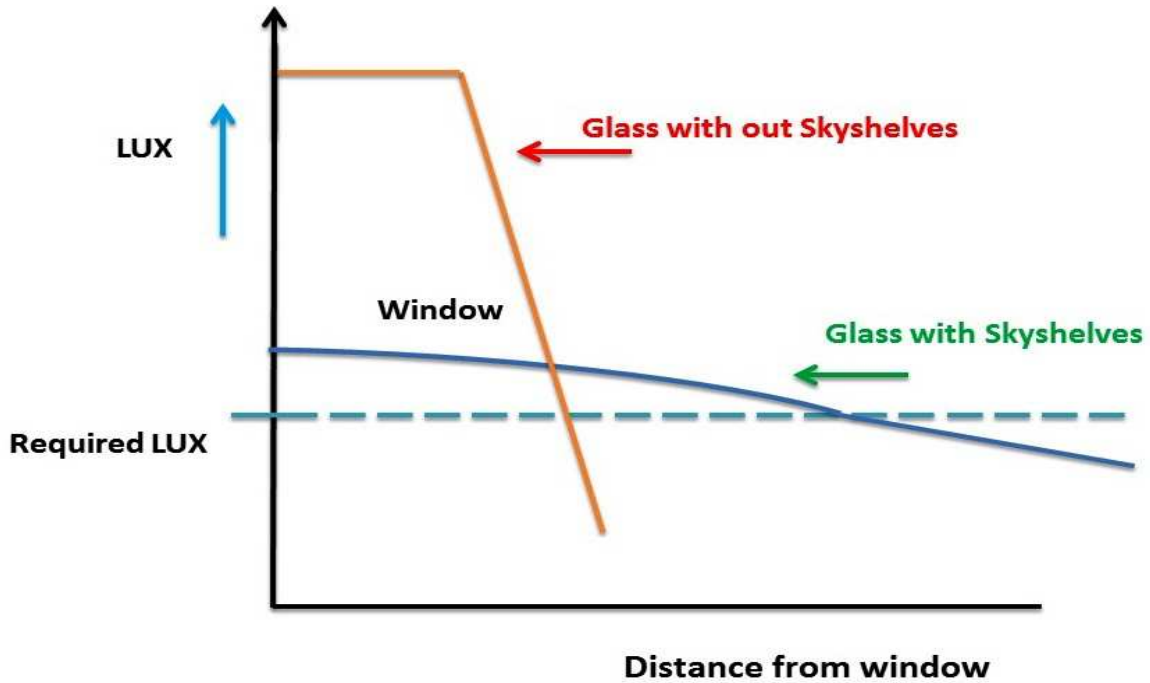


Fig.6.

Specifications

- Panel thickness** : 8mm
- Material** : PMMA
- UV resistance** : UV stable
- Weight** : 9.6 kgs per sqm or 2 lbs per sft
- Size** : Custom made to glazing requirement.
- Fixing** : Easy to fix with VHB tape prefixed to it.

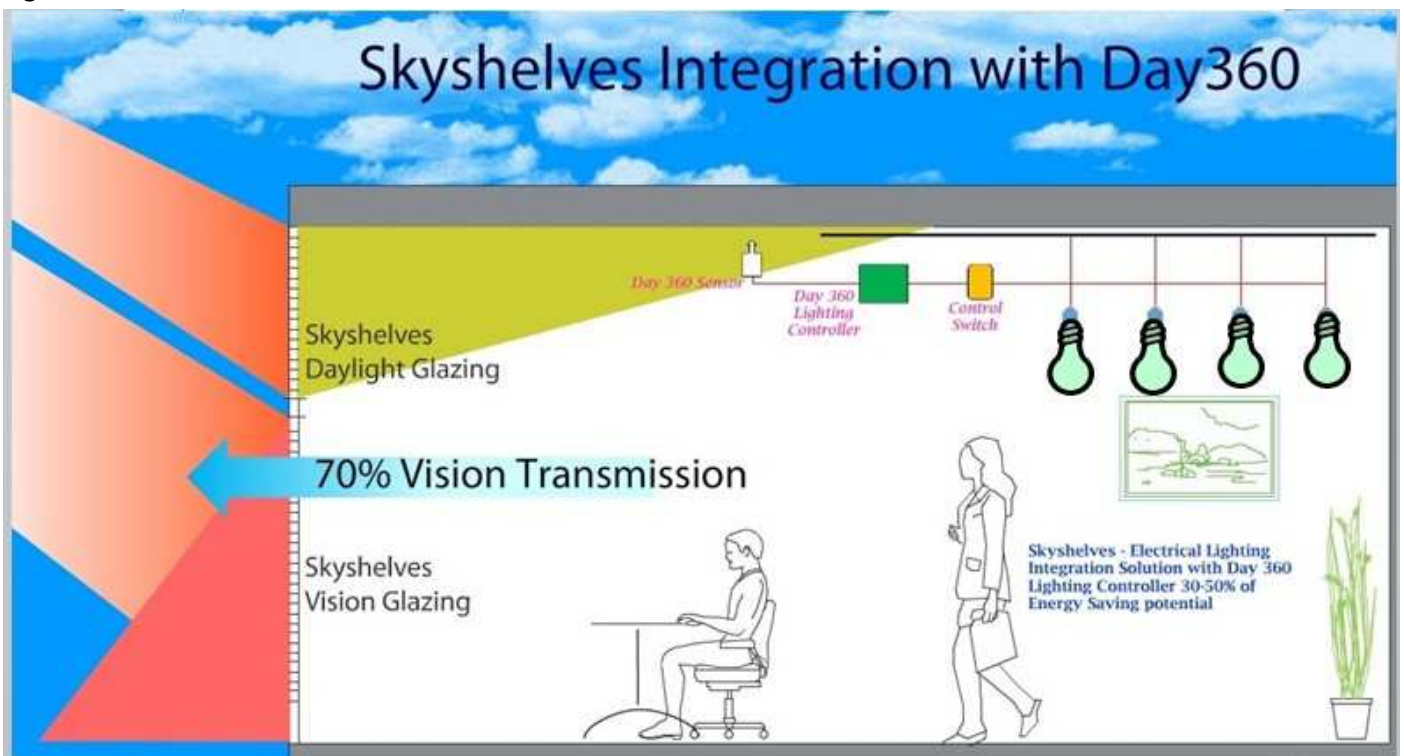
Performance

In Northern hemisphere, south glazing receives maximum lumens of light through the side. Same is north glazing in southern hemisphere. East and west glazing receive direct sunlight partially in a day. In cloudy weather conditions, skyshelves DG without blocking. Cloudy day performance is excellent as compared to other louver structured light shelves. Penetration of light inside is 8-12 meters. Approximately on clear Sky conditions.

Daylight + Electrical light Installation

When installing Skyshelves DG panels, integrating building electrical lights with Daylight with lighting controls enhanced energy savings and facilitates convince.

Fig.7



Skyshade provides Day 360 lighting controls that can seamlessly integrate electrical lighting to available Daylight with automatic controls.

Ordering information:

Window fig.8

W = Width, H = Height

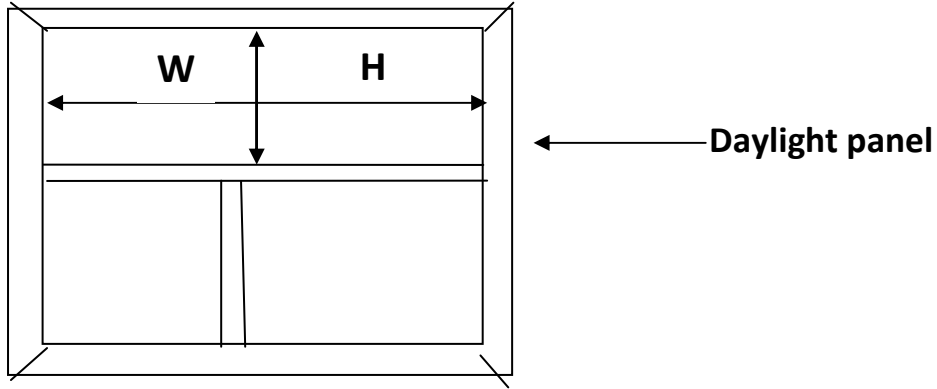
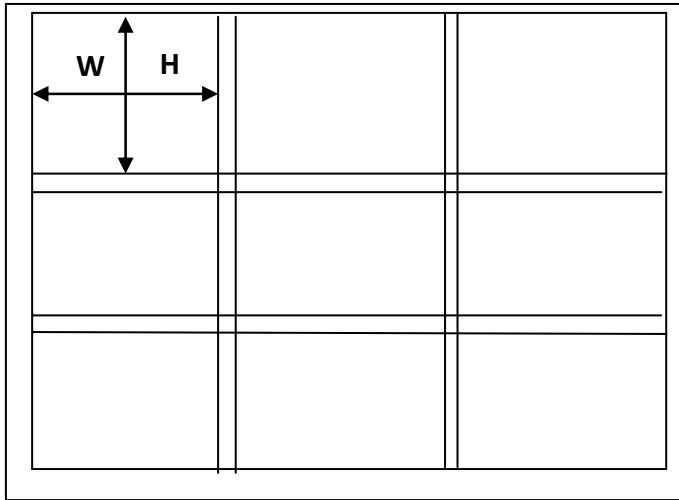


Fig.9



Calculations:

For a floor area of 100 sqm; 2.5-3.00 sqm of Skyshelves panel is required for Daylighting for approximate roof heights of 2.8m and 200-300 LUX at work plane in clear sky conditions of ambient light of 1,00,000 LUX.

Calculate the floor area = A sqm

Skyshelves panel area required = $A \times 2.5 \text{ sqm}/100$

Measure height (h) and width (w) of Daylight panel as shown in fig.8&fig.9;

Calculate the number of panels required.

Example:

Floor area : 1000 sqm

Skyshelves panel area required : 25sqm

If h= 0.6m, W =1.2m

Number of panels required $25 / (1.2 \times 0.6) = 34.7$

35 panels of 1.2m width and 0.6m height

Order format: Quantity of panels = _____

Size of panels = _____